

## **Remarks**

### **I. Response to Rejection of Claims 1-20 Under U.S.C. 112**

Applicant understands indefinite nature of claims as written and wishes to amend them by removing the term truss-like and replacing it with truss, as shown above.

### **II. Response to Rejection of Claims 1-20 Under U.S.C. 102**

#### **A. Response To Claim Rejections Regarding Lloyd (US-6,698,831):**

For several reasons, and with the claim amendments detailed above, applicant requests reconsideration and withdrawal of the rejection of claims 1-20 under 35 U.S.C. 102(b) as being anticipated by the massage chair invention of Lloyd.

##### **1. Reference Is From Different Field:**

- a. The field of invention of the reference is from a significantly different technical field having significantly different weight, structural, and spatial requirements.

Lloyd's invention provides adequate support and adjustment for its field, but does not provide or need to meet all of the functionality, strength, and adjustment characteristics of the applicant's invention. The construction and arrangement of the applicant's invention is significantly different and will produce a lighter, more adjustable assembly that can be used on a cycle.

##### **2. Omission Of Element:**

- a. All of the loads from the face rest of Lloyd's invention must pass through a single pivot of the truss structure and into main structure of the invention. In order to hold the face rest in position, this single pivot is required to lock in place in distinct positions. Lloyd does not have a link that has a seat post to attach to the frame.

The applicant's invention does not require any such locking pivot. The loads from the seat are transferred into the quill link through pivot points that may be locked or unlocked. The quill link then transfers the loads into the cycle frame through the seat post.

In short, in order to fully take advantage of a truss structure, as the applicant's invention does, it needs to be fixed at two of its joints, Lloyd's face rest is fixed at a single joint that must rotationally lock in place. These are fundamentally different structures.

##### **3. Superior Results Over Reference:**

- a. Lloyd provides for an adjustment of the face rest in a horizontal direction as well as an angular adjustment. However, the horizontal adjustment takes place below the truss structure, not in one of its links. This is not a practical arrangement for a cycle seat clamping assembly.

The applicant's invention provides for a horizontal seat position adjustment in the upper truss structure. This allows for horizontal position adjustment using the standard seat rail system used in the cycle industry to make horizontal position adjustments and allows for efficient and lightweight use of a standard cycle seat and seat post quill. Lloyd suggests no such arrangement.

- b. There is limited vertical position adjustment to the face rest of Lloyd's invention. The applicant's use of the seat post for vertical seat position adjustment in a cycle provides a much larger range of vertical seat adjustment than Lloyd anticipated or needed and does not require any additional angular adjustment to maintain angular seat position.
- c. The seat of Lloyd's invention is adjusted in distinct intervals by positioning a strut into appropriate slots. The applicant's invention has no requirement of distinct adjustment intervals and can be adjusted to exact positions in infinitely small increments.

#### **4. Applicant Solves a Different Problem:**

- a. While Lloyd provides for a good deal of adjustment in the face rest, it is designed to support the head of a person while sitting and leaning forward. The loads required to support a sitting persons head are vastly different than that required by a seat clamping assembly on a cycle that needs to support the weight and impact of a rider in motion over bumps, jumps, and obstacles.
- b. The seat of Lloyd's invention has only minimal angular adjustment and is designed to support a person while sitting in a stationary chair. The loads required to support a sitting person are vastly different than that required by a seat clamping assembly on a cycle that needs to support the weight and impact of a rider in motion over bumps, jumps, and obstacles.
- c. In reference to the seat of Lloyd's invention, there is no suggestion of or expressed need for a horizontal, or vertical seat position adjustment with respect to the main structure of the invention.
- d. The seat in Lloyd's invention is mounted to a nearly horizontal member that is supported at both ends. Having a seat mounted and adjusted with respect to a frame member that is nearly horizontal and is supported and attached at both ends as shown in Lloyd's invention is not a practical arrangement for attaching a seat to a cycle. This arrangement solves a simpler problem and requires much less structural consideration. This is an entirely different arrangement than the standard seat, seat post head, and nearly vertical seat post quill arrangement of the applicant's invention.
- e. There is no indication of and no expressed need for Lloyd's invention to support the seat when it is pulled up in the vertical direction. In contrast, lifting the seat up at the front along with the strut out of its slot, and then placing the seat back down with the strut in the appropriate new slot can accomplish the type of seat angle adjustment described by Lloyd. The assembly lacks complete pivotal attachment at one end of

the strut; it only has support in limited directions and is not a complete truss element. This is not a practical way to attach a seat to a cycle. As desired, once adjusted, the applicant's invention holds the seat rigidly in all directions.

## **B. Detailed Response To Claim Rejections Regarding Lloyd:**

Lloyd shows no seat clamping assembly as defined by the applicant. There is no quill link, clamp link, or support link having means for attachment to each other in a triangular truss configuration. As demonstrated above, the Applicant's invention was not anticipated by and is novel over the cited invention of Lloyd.

With claims 2,6, and 14, Lloyd does detail some angular adjustment means for the seat and the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the angular position adjustment means of the applicant.

With claims 3-4, 11, and 20, Lloyd does detail some horizontal position adjustment means for the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the horizontal position adjustment means of the applicant.

With claim 7, Lloyd does detail some angular adjustment means for the seat and the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the angular position adjustment means or the pivot axes and attachments of the applicant.

With claims 8 and 15, Lloyd does detail some angular adjustment means for the seat and the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the angular position adjustment means or the quill link means of the applicant.

With claim 9, Lloyd does detail some angular adjustment means for the seat and the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the angular position adjustment means or the clamp link means of the applicant.

With claims 10 and 19, Lloyd does detail some angular adjustment means for the seat and the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the angular position adjustment means or the support link means of the applicant.

With claim 16, Lloyd does detail some angular adjustment means for the seat and the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the angular position adjustment means or the pivot adjustment collar means of the applicant.

With claim 18, Lloyd does detail some angular adjustment means for the seat and the face rest. However, since the structures are different and as the arguments detailed above demonstrate, Lloyd did not anticipate the angular position adjustment means or the clamp link means of the applicant.

### **C. Response To Claim Rejections Regarding McFarland (US-5,489,139):**

For several reasons, and with the claim amendments detailed above, applicant requests reconsideration and withdrawal of the rejection of claims 1-20 under 35 U.S.C. 102(b) as being anticipated by the suspension seat post invention of McFarland.

#### **1. Applicant Solves a Different Problem:**

- a. The invention of McFarland, as referenced, describes a non-rigid suspension style seat post that uses two parallel linkages with resilient means interposed to provide the cycle seat with an amount of suspension travel that doesn't change seat angle as it absorbs bumps.

The applicant's invention rigidly holds the cycle seat in position utilizing a truss structure.

#### **2. Incompatible Structures:**

- a. McFarland uses four links in a parallelogram configuration that is naturally compliant. McFarland also uses this shape to keep the seat angle constant. Seat angle adjustment is accomplished through traditional means in the upper link. Seat angle and horizontal position are not adjusted independently.

The applicant's invention uses three links in a triangular configuration that is naturally lightweight and rigid. Seat angle is adjusted unconventionally, by altering the distance between pivot axes of the links. Seat angle and horizontal position can be adjusted independently.

The two structures are fundamentally different. McFarland neither anticipates a need for nor suggests supporting the seat with a three-link triangular truss structure.

- b. Mcfarland shows no combination of three links attached to each other in a triangular truss configuration where one link has a seat post and another of the links has a seat clamping structure.

Referring to FIG. 1 of McFarland, member 86 is not a rigid link. It has no pivots at its attachments. It doesn't provide rigid structural support in any direction.

Member 86 is attached to and separates the front and rear links. The front and rear links both attach to an upper seat clamping link and a lower link with a seat post.

A close look at FIG 1 and the claims of McFarland reveals that there is no triangular arrangement of three members attached to each other including any of these four links and member 86. There is only quadrilateral arrangements, using four links, or a single parallelogram arrangement with a non-rigid cross member (Member 86).

Furthermore, even if member 86 is included in any triangular arrangement, the triangular structure either has a seat clamping portion, or a portion with a seat post, but never has both a seat clamping portion and a seat post in one, single triangular arrangement.

The applicant's invention uses a set of three links attached to each other in a rigid triangular arrangement that has both a seat clamping structure and a link with a seat post in that single triangular arrangement.

#### D. Detailed Response To Claim Rejections Regarding McFarland:

McFarland shows no seat clamping assembly as defined by the applicant. There is no quill link, clamp link, or support link having means for attachment to each other in a triangular truss configuration. As demonstrated above, the Applicant's invention was not anticipated by and is novel over the cited invention of McFarland.

With claims 2,6, and 14, McFarland does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means of the applicant.

With claims 3-4, 11, and 20, McFarland does detail some horizontal position adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, McFarland did not anticipate the horizontal position adjustment means of the applicant.

With claim 7, McFarland does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, McFarland did not anticipate the angular position adjustment means or the pivot axes of the applicant.

With claims 8 and 15, McFarland does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, McFarland did not anticipate the angular position adjustment means or the quill link means of the applicant.

With claim 9, McFarland does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, McFarland did not anticipate the angular position adjustment means or the clamp link means of the applicant.

With claims 10 and 19, McFarland does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, McFarland did not anticipate the angular position adjustment means or the support link means of the applicant.

With claim 16, McFarland does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, McFarland did not anticipate the angular position adjustment means or the pivot adjustment collar means of the applicant.

With claim 18, McFarland does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, McFarland did not anticipate the angular position adjustment means or the clamp link means of the applicant.

## **E. Response To Claim Rejections Regarding Herting (US-5,547,155):**

As stated in the interview summary kindly provided by the examiner, it was agreed during the interview that for some of the reasons stated below, the prior art of Herting does not show or disclose the applicant's invention. The following is provided for record as the arguments discussed during the interview.

For several reasons, and with the claim amendments detailed above, applicant requests reconsideration and withdrawal of the rejection of claims 1-20 under 35 U.S.C. 102(b) as being anticipated by the independently adjustable seat clamping assembly invention of Herting.

### **1. Incompatible structures:**

- a. Herting uses an adapter member and a base plate member that pivots on the adapter member at one end and fastens in position to the adapter member at the other end. This Base plate member also works in conjunction with a clamping member to clamp onto the seat.

The invention of Herting does not use a triangular truss structure or linkage to support the seat. Instead, Herting uses the adapter member to support the base plate member at two locations. This type of arrangement requires the adapter member to be designed for significant bending loads. This is particularly a problem when large clamp offsets are desired and leads to particularly heavy parts.

The applicant's invention uses three links in a triangular truss structure to support the seat. This structure is fundamentally different and greatly reduces the bending loads in the individual parts regardless of clamp offset distance.

## **F. Detailed Response To Claim Rejections Regarding Herting:**

Herting shows no seat clamping assembly as defined by the applicant. There is no quill link, clamp link, or support link having means for attachment to each other in a triangular truss configuration. As demonstrated above, the Applicant's invention was not anticipated by and is novel over the cited invention of Herting.

With claims 2,6, and 14, Herting does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means of the applicant.

With claims 3-4, 11, and 20, Herting does detail some horizontal position adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the horizontal position adjustment means of the applicant.

With claim 7, Herting does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means or the pivot axes of the applicant.

With claims 8 and 15, Herting does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means or the quill link means of the applicant.

With claim 9, Herting does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means or the clamp link means of the applicant.

With claims 10 and 19, Herting does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means or the support link means of the applicant.

With claim 16, Herting does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means or the pivot adjustment collar means of the applicant.

With claim 18, Herting does detail some angular adjustment means for the seat. However, since the structures are different and as the arguments detailed above demonstrate, Herting did not anticipate the angular position adjustment means or the clamp link means of the applicant.

## **G. Response to Other Cited references**

Applicant has reviewed additional references of Chen, Maret, Hals, Beach et al, Liao, and Haynes and has not found them to show applicant's invention or render it obvious.

### **III. Additional Arguments for Allowance of Claims:**

#### **A. Commercial Acquiescence:**

Applicant would like to make it known that the invention has had significant industry interest. One manufacturer currently licenses the invention. A second manufacturer is currently in serious negotiation. See attached letters for reference. In both cases the applicant's invention is replacing an established design. In one case the design that is being replaced is independently adjustable.

#### **B. Professional Recognition:**

Applicant's invention has been recognized in Mountain Bike Action, a top industry publication, as a "New Idea". See attached photocopy as reference.

#### **C. Crowded Art:**

The applicant would like to point out that the invention is classified in a crowded art and any step forward should be regarded as significant.

## Conclusion

For all the reasons given above, applicant respectfully submits that the claims have been amended to reverse the claim rejections under U.S.C. 112. The claims define over the prior art under section 102 and are of patentable merit due to new results under section 103.

When compared to the applicant's invention, the structures of Lloyd's invention are not practical for use on a cycle. They lack proper structural connectivity. They are oriented incorrectly. They are heavier. They solve different problems, and they have inferior strength and adjustment.

When compared to the applicant's invention, the structure of McFarland's invention is incompatible. It has four links where the applicant's has three. It's a non-rigid structure while the applicants is rigid. It adjusts seat angle in an established manor while the applicant's invention adjusts seat angle in a non-established manor. It's larger, heavier, and solves a completely different problem.

When compared to the applicant's invention, the structure of Herting's invention is incompatible. The core structure is fundamentally different. It doesn't take advantage of a triangular truss structure. It has considerably higher bending loads in its components. It has only two pivot axes and it's heavier.

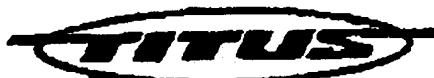
During a telephonic interview, the applicant and the examiner did not come to an agreement with respect to the objections over Lloyd and McFarland. However the examiner did find that the prior art of Herting does not show or disclose the applicants invention. The claim amendments and the arguments of this response have been assembled to reflect the scope of both the office action and the interview.

Applicant submits that this application is now in full condition for allowance, which action applicant respectfully solicits

Respectfully submitted,



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03/14/05

To: Next Dimension Engineering  
Attn: Kevin Tisue

Subject: Titus/MAXM Seat Post Head license

Dear Kevin:

This letter is to confirm our license agreement for your seat post head design.

We have replaced our previous offset seat post head design and are currently in production with the new licensed three-link design.

The new design has reduced our seat post head weight by nearly 30% and has improved our customer experience with its independently adjustable characteristics.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Cocalis".

Chris Cocalis  
President, Titus Cycles Inc.



March 18, 2005

To whom it may concern:

This letter is to confirm that Race Face Components Inc. has been in discussions with Kevin Tisue to license a seat post head design from him. We have built working prototypes using his technology and are moving towards production.

In the short term, it is our intent to replace at least two of our head designs with the new technology. One of the designs to be replaced is already independently adjustable.

Although the final details have not been worked out, and no contractual commitment has been made, Race Face Components Inc. does intend on licensing the three-link seat post technology from Kevin Tsue.

Please contact the undersigned with any questions.

**Craig Pollack**  
**President and CEO**  
**Race Face Components Inc.**



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